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Attorney Docket No. 1165-782

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Yoshinori Kami et al.

Serial No.: 09/530,447

Filed: April 28, 2000

For: Air Bag

Assistant Commissioner for Patents
Washington, DC 20231

Sir:

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) Group Art Unit: 3611
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) Examiner: Not Yet Assigned
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4 files
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TC 3600 MAIL ROOM

INFORMATION DISCLOSURE STATEMENT

Enclosed for the consideration of the Examiner in connection with the prosecution of this application is a copy of the following prior art reference.

U.S. Patent No. 5,533,755

Copies of the following prior art references were submitted in an Information Disclosure Statement filed April 28, 2000.

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JP 6-8779

JP 7-90747

An Abstract in English was submitted for each reference together with an English language version of the International Search Report where they were cited. Applicants would like to add the following concerning the relevance of these two documents.

JP 6-8779 describes a coated fabric in which a specific coated structure is formed for obtaining a light and soft air bag with improved stowability. The coated fabric is made from a base fabric composed of yarn constituted by a plurality of filaments

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preferably having a denier ranging from 3 to 7 (3.3 dtex to 7.7 dtex) with a total denier of preferably from 200 to 1000 (222 dtex to 1111 dtex). The coated layer and/or the fiber making the base fabric contain anti-flame retardant, for example, halogen-containing compounds, platinum compounds, antimony oxides, copper oxides, titanium oxides, carbon and the like. The base fabric embodied using the finest (thinnest) yarn is described in Example 1. In Example 1, a methyl silicon rubber-coated fabric in which a base fabric (190 g/m^2) is a plain weave fabric formed by weaving a nylon 66 filamentary yarn having 420 denier/72 filaments (467 dtex/72f; single-filament dtex is calculated as 6.5; tenacity, 8.1 g/denier) as the warp and weft yarns at a weave-density of 46 ends/inch (2.54 cm) and 46 picks/inch. By calculation, the product of total fineness of warp (or weft) of the plain weave is found to be 21436 dtex/2.54 cm; the value is far greater than that of the presently claimed base fabric as specified by the present invention (see claims 1 and 7).

JP 7-90747 describes a high weave-density base fabric for obtaining an uncoated air bag which is improved in lightness, softness and stowability. The high weave-density base fabric is additionally improved in mechanical properties, gas-permeability and anti-flame retardancy. The base fabric is made of a synthetic fiber selected from a group consisting of polyamide (nylon 66, nylon 6 and nylon 46) fiber and polyethylene terephthalate fiber, and formed by weaving the fiber yarn using water-jet loom. In the case where the fabric is made of polyamide fiber, for prevention of deterioration by heat, light or oxidation, the fiber contains preferably an anti-oxidant selected from a copper salt of inorganic or organic acid such as copper bromide, copper chloride, copper acetate at a concentration of 10 - 300 ppm in terms of copper together

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with 0.05 - 0.5 wt% of potassium iodide, sodium iodide and the like, and if necessary, 10 - 500 ppm of an inorganic or organic phosphorous compound in terms of phosphor. The smallest limit of thickness (fineness) of yarn composing the high weave-density uncoated fabric is preferably 210 denier (233.3 dtex) for achieving the required level of mechanical properties of the fabric, while the thickness of a single filament constituting the yarn is preferred to be below 3 denier (3.3 dtex) because a single filament which is smaller in thickness produces a more soft and compact base fabric. Examples embody various uncoated base fabrics composed of nylon 66 multi-filamentary yarns (420 denier/144 filaments, 420d/216f, 315d/144f and 420d/72f = 467 dtex/144f, 467 dtex/216f, 350 dtex/144f and 467 dtex/72f) containing 100 ppm of phosphor and 80 ppm (with 0.1 wt% KNO_3) of copper. These nylon 66 filamentary yarns are prepared by melt-spinning nylon 66 tips having a sulfuric acid relative viscosity at 25°C (polymer concentration: 1 wt%) of 3.5. From calculation based on the weave-density data presented in Tables 3 and 4, products of a total fineness of warp (or weft) of the fabric multiplied by a weave density of the fabrics are found to be 21482 dtex (Comparative Example 1), 25685 dtex (Example 1) and 24500 dtex (Example 4) which are far greater than that of the present base fabric (see claim 1 of the present specification). In view of the presently claimed products of a total fineness of warp (or weft) of the fabric multiplied by a weave density of the base fabric (16000 dtex or less), the present base fabric can provide an air bag which is far more improved in lightness, softness and stowability.

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If there is any fee due in connection with the filing of this Statement, please charge the fee to our Deposit Account No. 06-0916.

Respectfully submitted,

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Dated: September 5, 2000

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